

diating beards. The tentacles are long and tapering, semi-opake, white, with about five or six rather distant black rings. The eyes are placed at the ends of stout elongated peduncles, the right free, the left attached to the pseudo-siphon; the eyes, at the apex of a white bulb, are of a dark brown colour, with a small round black pupil. The white peduncles are stained with dark brown just below the bulb. The funnel-shaped organ on the left side is semipellucid, and furnished inside with numerous opake white papillæ; the edge is fringed, and adorned with black dots. The neck-lappet on the right side is large, and folded on itself, forming a conspicuous anal siphon flecked with opake white, but sufficiently pellucid to allow the passage of the fæces to be distinctly seen through the walls of the tube. This organ is sometimes thrown up upon the back of the shell.

The mantle, as might have been surmised from the polished nature of the surface of the shell, is reflected over the front edge of the outer lip, forming a narrow black rim, and, when touched, is immediately retracted. The portion of shell covered by the mantle is seen void of colour or markings on the perfect adult shell. In cabinets the shell is rarely perfect, on account of the thin, brittle nature of this part. The lateral membrane of the foot is provided with four tentacular filaments, the two posterior rather closer together than the two anterior.

The foot is voluminous, with flat thin margins; it is semipellucid, and the operculum is placed on the dorsal surface, close to the shell; the hind part of the foot extends in the form of a tail far beyond the operculum, and is triangular, flat above, and angular at the sides, two dark lines meeting behind in a point behind the flat area. The sole is greyish, with a median opake white patch at the fore part, and with numerous very fine radiating pencilled lines on each side; a dark-grey median streak extends from the white blotch as far as the end of the tail, and in the middle part are one or two slender dark transverse lines.

Any further observations on the anatomy and dentition I must for the present reserve.

Wei-hae-Wei, Shan Tung, China,
April 15, 1860.

XL.—Notice of an undescribed Peculiarity in *Teredo*.

By J. GWYN JEFFREYS, Esq., F.R.S.

ON my return last week from the Continent, through Holland, I had the pleasure of meeting Dr. Verloren at Utrecht, and of examining living specimens of *Teredo marina* which he had kept in a glass jar for about ten months. They appeared to have become habituated to the loudest noise; and even when the jar was

moved, or the light suddenly obstructed, they did not withdraw their terminal tubes or siphons. The longer (or alimentary and inhalant) tube was in frequent motion, and inflected in various directions, as if in search of food, while a current of water full of animalcula continually passed into it. The shorter (or fæcal and exhalant) tube performed its functions at intervals, expelling the woody pulp by a spasmodic action, and occasionally withdrawing itself, in order the better to effect its purpose, when any stoppage occurred. Each tube was transparent, and fringed with cilia at its orifice. Professor Harting, in his elaborate treatise, which has just been published, 'over het Mechanisme van den Troestel,' &c., appears to have mistaken the nature and relative use of these tubes, calling the longer tube the "cloacaal siphon," and the shorter one the "branchiaal siphon." The *Teredines* seemed to prefer the sunny side of the jar; and they are said to be very sensitive to cold. But the most interesting peculiarity which I witnessed, and to which my attention was directed by Dr. Verloren (although it has not been noticed, so far as I am aware, by any one of the numerous writers on the *Teredo*), is that each of the tubes is protected or enveloped externally by a very thin, pellucid, and film-like membrane or sheath. These tube-sheaths are irregularly annular, like the testaceous tube or tunnel which lines the excavation in the wood; and they bear a considerable resemblance in form to the stem of *Tubularia indivisa*, though differing from it in texture and colour. The alimentary tube-sheath is about an inch long, and the other is half that length. Their annular structure evidently arises from successive accretions of growth. The use of the sheath in *Teredo* may be either to prevent the delicate tubes, which it covers for about half their length, being choked or obstructed by the accumulation of flocculent pulp which lies outside, or else to protect them from the attacks of minute predaceous animals. It is renewed from time to time; and in one of the specimens four separate sheaths were attached to the tubular opening in the wood, one pair having been apparently disused, and a new set formed for present use. I am more than ever of opinion that the foot of *Teredo* (and most probably of every other boring shell-fish) is the sole instrument of perforation, instead of any of the methods described in the 'History of British Mollusca.'

I will add a few words as to the synonymy of *Teredo marina*. The *Teredo navalis* of Linnæus comprised at least two species (viz. *T. Norvagica*, or the "Italianische see-wurm" of the older Dutch writers, and *T. marina* of Sellius), as appears from the references in the twelfth edition of the 'Systema Naturæ' to Vallisnieri, Plancus, and Sellius. The diagnosis ("Teredo intra

lignum testa flexuosa") is applicable to almost any species of *Teredo*; and the expression used by Linnæus, "calamitas navium ex Indiis in Europam propagata," would refer rather to some exotic than to a European species. In the 13th (or Gmelin's) edition, one of the generic characters of *Teredo*, describing the pallets as "lanceolatis," is peculiarly appropriate to *T. Norvagica*. The *T. marina* (or "Hollandische see-wurm") does not, I believe, occur in sailing ships, but only in piles or fixed wood. I examined in vain the Linnæan Collection (which has been partly arranged by Mr. Hanley) for Tereidines, but could not find any; and Mr. Hanley admits, in his valuable work entitled 'Ipsa Linnæi Conchyliæ,' that unfortunately no specimen was preserved in it, so as to ascertain which species Linnæus meant by his *Teredo navalis**. Under these circumstances, I think I am justified in restoring the prior and appropriate name of "*marina*," given by Sellius, who used it in a legitimate sense to distinguish this species from those described by Vallisnieri and other authors.

25, Devonshire Place, Portland Place, London,
Sept. 18, 1860.

BIBLIOGRAPHICAL NOTICE.

Flora of Cambridgeshire; or, a Catalogue of Plants found in the County of Cambridge. By C. C. BABINGTON, M.A., F.R.S., F.L.S. Van Voorst, 1860.

THE plants of Cambridgeshire have occupied the attention of many eminent botanists: Mr. Babington mentions, in his 'Introduction,' no less than sixteen treatises bearing upon his subject. But as botany has advanced, so has the surface of the country greatly changed since the times of Ray and of Relhan. With the progress of agriculture and drainage, many species have become scarce, while some have altogether disappeared; on the other hand, large additions have been made to the list, through the industry of Mr. Babington and his colleagues. Hence the need of a new Flora; and we are glad to think the task has fallen into the able hands of the author of the 'Manual of British Botany.'

Mr. Babington has spared no pains to render his work as complete as possible. The older writers have been scrupulously consulted, and the plants referred to their earliest finders. The whole county

* The following extract from Mr. Hanley's work, which was published in 1855, will confirm the view I have taken as to the necessity of rectifying the nomenclature of this species:—" *Teredo navalis*. It is impossible to determine, from the language of Linnæus, to what particular species of ship-worm the very comprehensive term *navalis* should be restricted. Our author has not indicated the possession of examples; consequently his cabinet affords no assistance in the investigation."